

## CLAIMS

- 1- Coating for an optical fiber, comprising at least one partly crosslinked polymer, characterized in that a level of crosslinking increases according to a radial distance from an internal surface (3) of the coating (4) which interfaces with a cladding section (2) to an external surface of the coating (4).
- 5 2- Coating of claim 1, comprising a single resin characterized in that said resin is composed of a volatile, multifunctional and moderately reactive monomer dissolved in a fast curable oligomer, having a low modulus when polymerized.
- 10 3- A method of manufacturing of a coated optical fiber comprising the steps of drawing of the fiber, deposition of a coating (4), cure of the coating (4) and spooling of the optical fiber, characterized in that the coating (4) comprises a single resin composed of a volatile, multifunctional and moderately reactive monomer dissolved in a fast curable oligomer, having a low modulus when polymerized and in that said monomer is not completely cured.
- 15 4- The method of claim 3, wherein said volatile monomer is evaporated before without being completely cured.
- 20 5- The method of claim 3 or 4, wherein ultraviolet irradiation is used for an incomplete curing of the single resin.
- 6- The method of claim 3 or 4 wherein electron beam irradiation is used for an incomplete curing of the single resin.